MATH 118 – Math for the Natural Sciences

Math 118 · Suggested Homework · Spring 2020

Section	Exercises
Day One	→ Carefully RE-READ and UNDERSTAND the Syllabus ←
§ P1: Algebraic Expressions	9, 11, 15, 20, 25, 29, 43, 49, 57, 59, 69, 91, 93, 95, 99, 101, 107 - 119(odd), 159, 160
§ P.2: Exponents and Sci. Notation	1, 3, 5, 12, 21, 29, 33, 37, 39, 41, 43, 47, 51, 59, 63, 65, 67, 95, 99, 107, 143
§ P.3: Radicals and Rational Exponents	1, 3, 5, 11, 25, 29, 35, 37, 41, 49, 51, 61, 65, 71, 73, 79, 87, 91, 93, 95, 101, 103, 109, 111, 119
§ P.2: Exponents and Sci. Notation § P.3: Radicals and Rational Exponents	From § P.2: 55, 57, 61, 77, 83, 103, 109, 111, 112, 113, 114, 145 From § P.3: 21, 31, 43, 53, 80, 81, 89, 97, 99, 107, 110, 112, 113, 114
§ P.4: Polynomials	13, 17, 21, 29, 39, 45, 65, 69, 85, 87, 89, 93, 95, 107, 108, 111, 113
§ P.5: Factoring Polynomials	9, 11-15(odd), 23, 29, 37, 41, 45, 47, 55, 59, 65, 71, 79, 83, 93, 97, 103, 117
§ P.6: Rational Expressions (I)	5, 9, 15, 17, 27, 29, 33, 39, 43, 51, 53, 56, 63, 69, 73, 75, 79
§ P.6: Rational Expressions (II)	65, 71, 74, 80, 83, 87, 107
§ P.7: Equations	11, 15, 21, 25, 35, 37, 39, 47, 51, 71, 75, 79, 91, 99-115(odd), 121, 127
§ P.5: Factoring Polynomials § P.6: Rational Expressions § P.7: Equations	87, 101, 104, 105, 109, 112, 113, 120, 121, 138 40, 41, 67, 72, 76, 81, 85, 88, 117 39, 41, 73, 100, 112, 123, 128, 131, 167, 169
§ P.9: Inequalities and Absolute Value	5, 15, 27, 31, 33, 41, 51, 55, 59, 65, 73, 75, 77, 85, 89, 91, 95
Chapter Review: Algebra Worksheet	Work exercises from sections 1.1.1 - 1.1.7; Ex 1 - 124 (OMIT: # 51, 52, 117, & 118)
Exam 1	
§ 1.1: Basics of Graphs	25, 55, 57, 59, 79-86(all)
§ 1.2: Basics of Functions and Graphs	13, 15, 29, 33, 35, 43, 45, 59, 61, 62, 71-75(odd), 81, 87, 89, 93, 95, 122-126
§ 1.3: More on Functions & Graphs	1, 3, 5, 11, 13, 39, 45, 47, 51, 53, 61, 63, 77, 85-91(odd), 90, 92
§ 1.4: Linear Functions and Slope § 1.5: More on Slope	7, 15, 27, 33, 37, 43, 59, 67, 85 1, 5, 9, 11, 25 (may use calculator for some calculations)
§ 1.5: Average Rate of Change § 1.6: Transformations of Functions (1)	15, 17, 29, 31 (may use calculator for some calculations) 17-23(odd), 33, 35, 36, 53, 55, 145
§ 1.6: Transformations of Functions (2)	27, 47, 52, 57, 59, 67, 69, 71, 77, 146, 147, 151, 152
Mid-Chapter	Work on Algebra Worksheet (1.1.1 - 1.1.7); Get caught up on other sections.
§ 1.7: Composite Functions	9, 27, 35, 47, 53, 59, 63, 67, 73, 75, 83, 85, 91, 93, 95, 124
§ 1.8: Inverse Functions	3, 5, 7, 17, 19, 25, 27, 28, 29-33(all), 36, 37, 53, 55, 57, 59, 63, 86
§ 1.9: Distance Formula § 1.10: Modeling with Functions	53, 57, 63 15, 18, 23, 25, 27, 31, 33, 41
Exam 2	
§ 2.1: Complex Numbers § 2.2: Quadratic Functions	5, 7, 17, 21, 27, 37, 49, 51 1-4, 5, 7, 8, 11, 17, 31,

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Section	Exercises
§ 2.2: Quadratic Functions (2)	39, 41, 57, 65, 71
§ 2.3: Polynomial Functions	3-9(odd), 13, 15-18, 23, 25, 31, 37, 43, 47, 57, 67, 69
§ 2.4: Dividing Polynomials	9, 11, 13, 15, 27, 29, 43, 44, 45 (you do NOT have to use synthetic Division here)
§ 2.5: Zeros of Polynomial Functions	23, 24, 25, 27, 29, 43, 45, 47
§ 2.5: Zeros of Polynomial Functions (2)	46, 49, 53, 58
§ 2.6: Rational Functions (1)	5, 7, 15-20, 25, 27, 29, 31, 37, 39, 49, 57, 65, 95
§ 2.6: Rational Functions (2)	33, 35, 43, 55, 73, 91, 93, 97
§ 2.7: Rational Inequalities (1)	17, 27, 35, 43, 53, 55, 61, 66, 68, 70
§ 2.7: Rational Inequalities (2)	25, 37, 39, 41, 57, 59, 63, 65, 67, 69
§ 3.1: Exponential Functions (1)	19-24, 35, 39, 41, 42, 55 (calculator)
§ 3.1: Exponential Functions (2)	52, 61, 63, 64, 73, 75 (calculator) , 88, 90, 91, 93
§ 3.2: Logarithmic Functions	1, 7, 9, 13, 21, 23, 27, 33, 43, 48-52, 65, 73, 83-93(odd), 97, 99, 101, 107, 109, 111, 150, 152
§ 3.3: Properties of Logarithms	5, 9, 13, 29, 30, 37, 41, 57, 68, 69, 83, 88, 93, 94, 96, 97, 99, 137 Take advantage of this time to get caught up on your weak sections
§ 3.4: Exponential and Log Equations (1)	5, 9, 19, 21, 33, 41, 43, 63, 71, 75, 83, 89, 91, 94, 95, 99, 102
§ 3.4: Exponential and Log Equations (2)	16, 22, 37, 42, 45, 64, 79, 87, 92, 93, 97, 100, 101
Exam 3	
§ 4.1: Angles and Radian Measure	15, 19, 25, 29, 41, 43, 45, 47, 63, 65, 69, 77, 80, 81
§ 4.2: Trig Functions: The Unit Circle	3, 5, 7, 17, 19, 23, 31, 35, 41, 55, 57, 59, 63, 67, 71, 77, 107
§ 4.3: Right Triangle Trigonometry	1, 7, 9, 11, 19, 29, 33, 35, 53, 55, 56, 57
§ 4.4: Trig Functions of Any Angle	1, 9, 11, 13, 16, 19, 25, 29, 31, 66, 67, 78, 85, 87, 91, 93, 95, 99 Any instructions: "for each of the six trig functions", just work the $\sin, \cos, \tan, \sec$
§ 4.5: Graphs of Sine and Cosine § 4.6: Graphs of Other Trig Functions	From § 4.5: 5, 11, 39, 57, 61, 65, 66 From § 4.6: 1-4
§ 4.7: Inverse Trig Functions (1)	1, 9, 11, 15, 25, 29, 33, 35, 39, 43, 55, 57, 65, 71
§ 4.7: Inverse Trig Functions (2)	41, 45, 61, 63, 67, 72, 79
§ 5.1: Verifying Trig Identities (1)	13, 21, 25, 32, 43, 45, 47, 51, 54, 67
§ 5.1: Verifying Trig Identities (2)	27, 29, 35, 37, 41, 49, 55, 57, 59
§ 5.5: Trigonometric Equations (1)	9, 23, 25, 27, 39, 45, 67, 99, 105, 113, 160
§ 5.5: Trigonometric Equations (2)	100, 101, 106, 115, 117
Exam 4	